

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

North Moreau Creek

Waterbody Segment at a Glance:

County: Moniteau
Nearby Cities: California
Length of impairment: None
Pollutants: None
Source: None



State map showing location of watershed

TMDL Priority Ranking: TMDL Approved 1999

Description of the Problem:

Beneficial Uses of North Moreau Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health associated with Fish Consumption
- Whole Body Contact Recreation (Swimming)
- Boating and Canoeing

Beneficial Use Impaired

- Protection of Warm Water Aquatic Life

Standards that apply

- Standards for non-filterable residue (NFR) may be found in the general criteria section of the Missouri Water Quality Standards, 10 CSR 20-7.031(3)(A) and (C), where it states:
 - Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.
 - Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.

Background Information and Water Quality Data

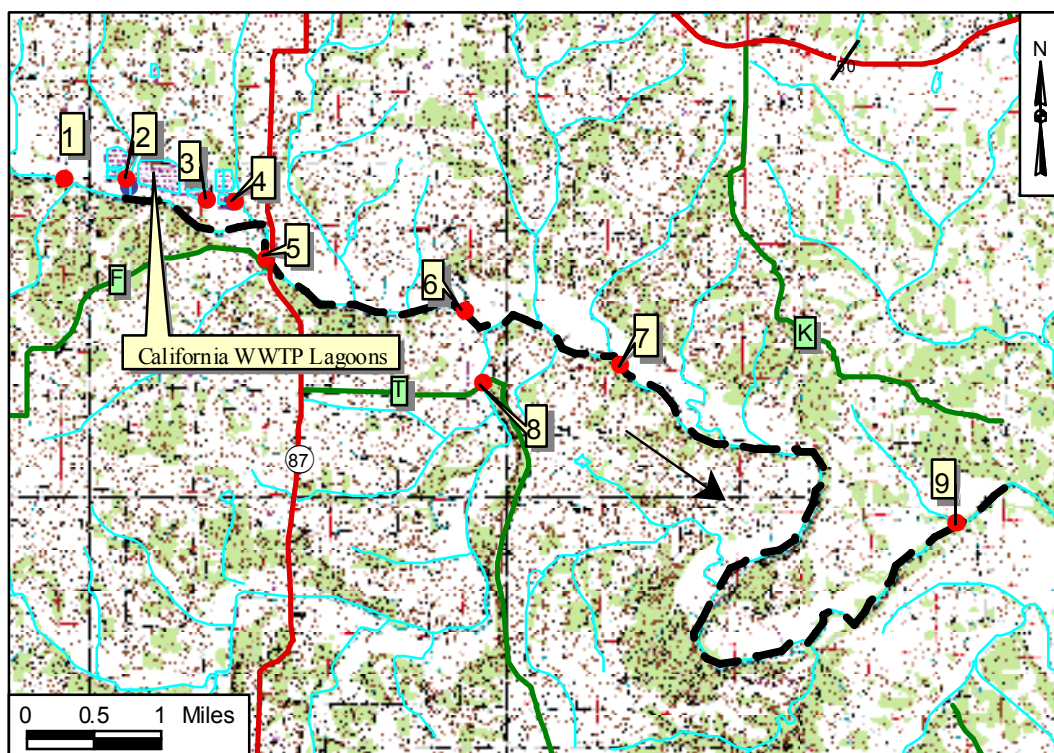
Three large wastewater treatment lagoons serving the City of California discharged effluent (“cleaned” water) with a high level of suspended algae, making the receiving stream green and turbid for as much as ten miles downstream of the lagoons. The Department of Natural Resources received many complaints from the public on the appearance of this portion of North Moreau Creek. The NFR in this case is the suspended algae discharged by these three lagoons. Suspended algae are a problem in

addition to being unsightly and smelly. They block sunlight, thus reducing dissolved oxygen in the water and many aquatic organisms require high levels of oxygen to survive.

The lagoon system was capable of handling 3.5 million gallons per day. The treatment plant's operating permit prohibited summer discharges to reduce the impacts on the stream. Summer is a time when the amount of stream water available for dilution and dissolved oxygen levels are at their lowest levels due to natural conditions. Despite this provision, observations of persistent problems with algae and complaints from the public prompted the listing of North Moreau Creek on the 303(d) list. The TMDL for North Moreau Creek was approved by the U.S. Environmental Protection Agency in December 1999.

A new wastewater treatment facility has been constructed and the lagoons causing the algae problems have been closed. The department conducted two summer low-flow water quality surveys of North Moreau Creek in the vicinity of the California South Lagoons in 2001. These studies showed the stream met water quality standards, and the visual appearance of the stream was similar upstream and downstream of the wastewater discharge. North Moreau Creek will be proposed for delisting during the next listing cycle.

North Moreau Creek in Moniteau County, Missouri, Showing Sampling Sites



— — — — — Impaired Segment → Direction of flow

Index to sample sites is on the next page.

Index to Sample Sites

- 1 – North Moreau Creek at Scott Ford
- 2 – California WWTP, West Lagoon Outfall
- 3 – California WWTP, Middle Lagoon Outfall
- 4 – California WWTP, East Lagoon Outfall
- 5 – North Moreau Creek at Highway 87
- 6 – North Moreau Creek above Burris Fork
- 7 – North Moreau Creek below Burris Fork
- 8 – Burris Fork at Highway T
- 9 – North Moreau Creek at County Road K-40

For more information call or write:

Missouri Department of Natural Resources

Water Protection Program

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